#### Scheme 1

1a. R = H, X = H to 1b.  $R = SO_3H, X = H$ 

**2a**.  $R = NO_2$ , X = H to **2b**.  $R = NO_2$ ,  $X = SO_3H$ 

3a. R = CI, X = H to 3b. R = CI, X =  $SO_3H$ 

**4a.** R = *t*-butyl, X = H to **4b.** R = *t*-butyl, X = H and SO<sub>3</sub>H (~1:1)<sup>a</sup>

**5a**.  $R = CH_2CH_2OH$ , X = H to 5b.  $R = CH_2CH_2OH$ ,  $X = SO_3H^5$ 

**6a.**  $R = SO_3H$ , X = H to **6b.**  $R = SO_3H$ , X = H

Fig. 1

$$H_2N$$
 $I_2N$ 
 $I_3N$ 
 $I_4N$ 
 $I_4N$ 

Fig. 2

# 

Fig. 3

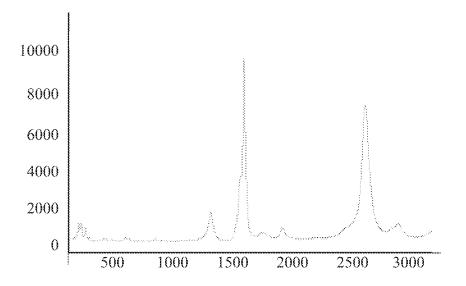
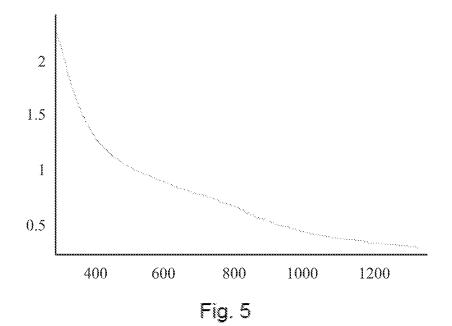
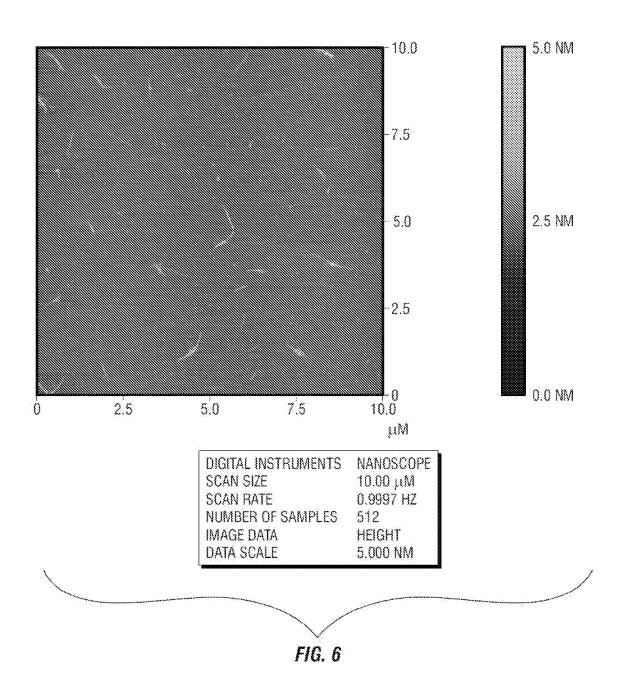
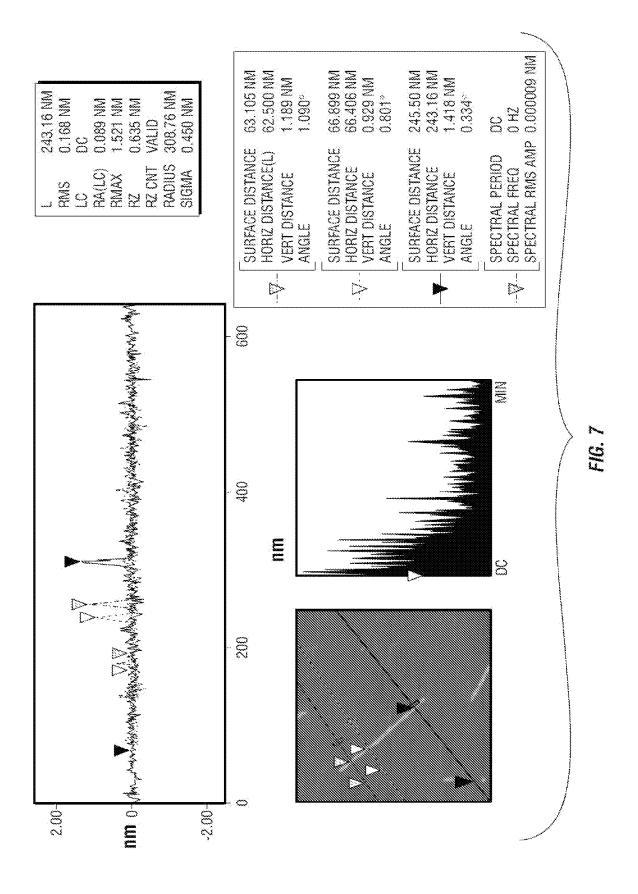


Fig. 4





6/11 REPLACEMENT SHEET



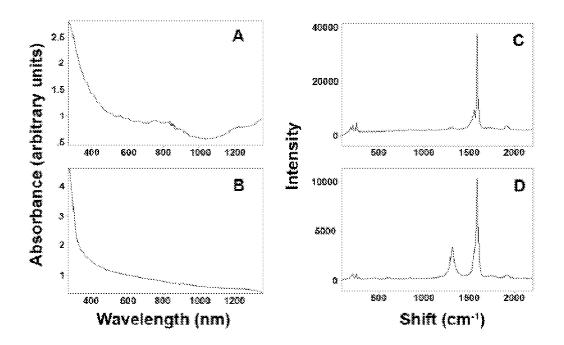


Fig. 8

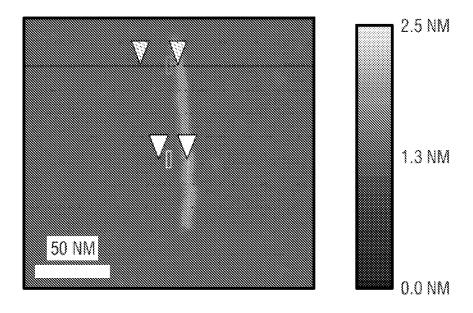


FIG. 9A

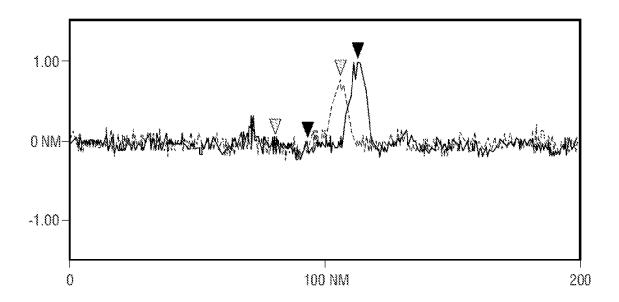
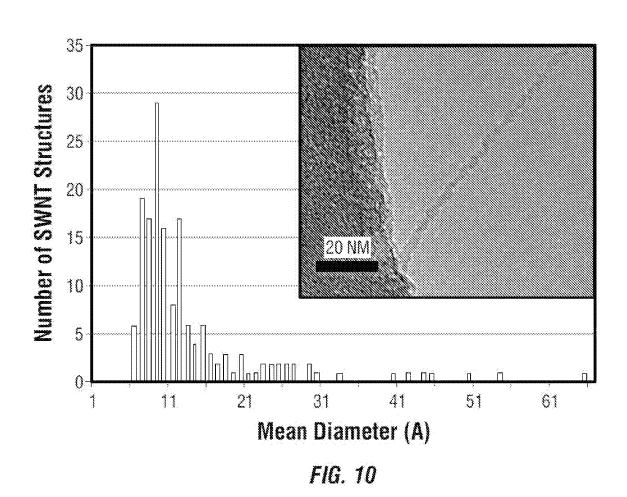


FIG. 9B



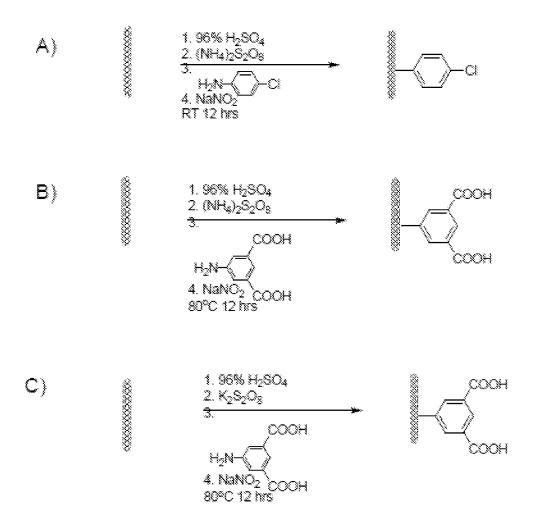


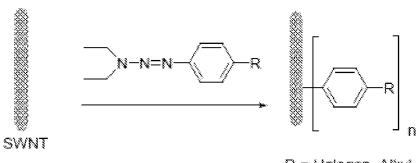
Fig. 11

#### Scheme 3

H-B = Acidic Media

Fig. 12

#### Scheme 4



R = Halogen, Alkyl, Ester, Amide, Ether

Fig. 13